

5. A List of the Rhopalocera collected by Mr. G. French Angas in the Island of Dominica. By F. D. GODMAN and O. SALVIN.

[Received April 4, 1884.]

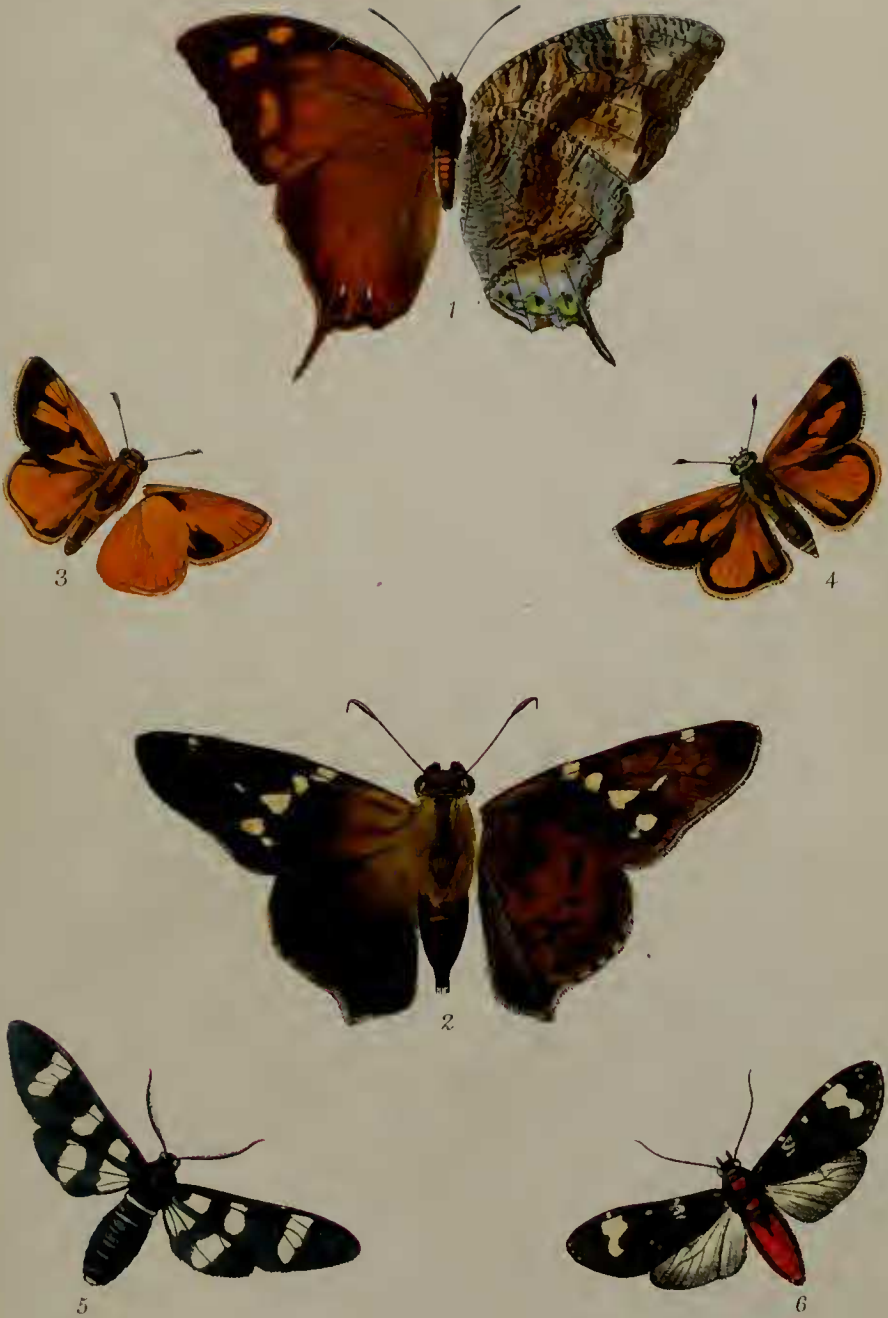
(Plate XXV.)

Our knowledge of the Lepidoptera of the West-Indian Islands is very imperfect, and, if we except the island of Cuba, nothing like a systematic attempt has ever been made to get together the fragmentary records on this subject which are scattered throughout zoological literature. It is true that lists like the present have been published of collections made in San Domingo and Puerto Rico, but these, for want of more ample materials, fail to give anything like a complete account of the Butterflies and Moths found in either of these islands.

Enough, however, has been done to show in some measure the character of the Lepidoptera of the Antilles, the chief peculiarities of which lie in the total absence of some of the most characteristic groups of the Neotropical fauna. Of the Nymphalidæ, the Danainæ are fairly represented so far as the genus *Danais* is concerned, but the *Ithomiæ* are restricted to three or four species in the larger islands. Of Satyrinæ there are hardly any (in the present collection none at all!). The Brassolinæ are wholly absent, so also are the Morphinæ. The Heliconinæ are represented by *H. charithonia* and one or two species of *Eueides*. The Nymphalinæ proper alone in this family maintain the peculiarity of the fauna, and in this sub-family there are a few peculiar genera and several very fine species. Of the Erycinidæ, of which there are perhaps a thousand species on the mainland of South America, not a single one has yet been discovered on any of the Antilles. The Lycænidæ are represented by some common species of *Lycæna* and a very few species of *Thecla*. The Pierinæ in so poor a fauna are fairly numerous, and amongst them are some peculiar species. The Papilioninæ, for the small number of species, are remarkable for their peculiarity and beauty—indeed *Papilio homerus* of Jamaica is a most marked species even in this wonderful genus. Finally, the Hesperidæ, besides including several species of very wide range, also embrace a good many peculiar species, but all of more or less extensive genera.

The number of species in Mr. Angas's collection is 27, which are distributed amongst the families of Rhopalocera as follows:—

Nymphalidæ.	
Danainæ . . . . .	1
Nymphalinæ . . . . .	7
Lycænidæ . . . . .	3
Papilionidæ.	
Pierinæ . . . . .	5
Papilioninæ . . . . .	1
Hesperidæ . . . . .	10



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LEPIDOPTERA FROM DOMINICA



One species of Nymphalinae is apparently new, and belongs to the Antillean section of the genus *Anaea*, of which there is a species in Cuba and another in San Domingo.

*Pieris virginia* alone of the Pierinae has any claims to peculiarity: it has been several times noticed in the Antilles, but the islands not specified, with the exception of Cuba, where we rather doubt its existence.

*Egipilio neodamas* is in the same category as *Pieris virginia*, and is probably only found in the Windward Islands.

Of the Hesperidæ it is difficult to speak with certainty. Two species, both described in this paper, have probably the same range as the *Papilio* and *Pieris*.

In conclusion, we may say that we still look for considerable additions to the present list; and these may fairly be expected to include peculiar species of Nymphalidæ and Hesperidæ, and perhaps of Papilionidæ. The widely ranging forms, such as frequent the more open country, are probably most of them included in the following list. It is in the forests and in the older vegetation that novelties must be sought.

### 1. DANAIS PLEXIPPUS.

*Papilio plexippus*, Linn. Syst. Nat. i. p. 767

*Danais plexippus*, Godm. & Salv. Biol. Centr.-Am., Rhop. i. p. 1.

This *Danais* appears to be common in Dominica, as there are many specimens in Mr. Angas's collection. These all belong to the form prevalent in the northern parts of South America, in which the spots in the apical portion of the primaries are purer white than in North-American examples.

### 2. COLÆNIS CILLENE.

*Papilio cillene*, Cram. Pap. Ex. t. 215 f. D, E.

We have already stated (Biol. Centr.-Am., Rhop. i. p. 168) that the Cuban species of this *Colænis* conforms best to Cramer's figure, though his specimen is stated to come from Surinam! The examples in the present collection differ from the typical form of *C. cillene* in that the transverse band of the primaries beyond the cell is rather more strongly developed.

This is apparently a common species in the island.

### 3. AGRAULIS VANILLÆ.

*Papilio vanillæ*, Linn. Syst. Nat. i. p. 787.

*Agraulis vanillæ*, Godm. & Salv. Biol. Centr.-Am., Rhop. i. p. 171.

A very widely ranging species, found throughout the whole of tropical America, as well as in the West-Indian Islands.

## 4. JUNONIA CÆNIA.

*Junonia cænia*, Hübn. Samml. ex. Schmett. ii. t. 32; Godm. & Salv. Biol. Centr.-Am., Rhop. i. p. 220.

Agrees with specimens from the Greater Antilles and from Central America.

## 5. ANARTIA IATROPHE.

*Papilio iatrophe*, Linn. Syst. Nat. i. p. 779.

*Anartia iatrophe*, Godm. & Salv. Biol. Centr.-Am., Rhop. i. p. 221.

This species has already been noticed in the Greater Antilles.

## 6. DIDONIS BIBLIS.

*Papilio biblis*, Fabr. Syst. Ent. p. 505.

*Didonis biblis*, Godm. & Salv. Biol. Centr.-Am., Rhop. i. p. 277.

Agrees with South-American specimens. The same species has also been found in Haiti.

## 7. DIADEMA BOLINA.

*Papilio bolina*, Linn. Syst. Nat. i. p. 781.

Mr. Angas's first collection contained a single female of this eastern species which has long been known to have become naturalized in Guiana. Since his return to England Mr. Angas has received several male specimens of this conspicuous insect from his friend Mr. Nicholls, who says it appeared suddenly in the island in comparative abundance after a violent hurricane, and that during a ten years' residence in Dominica he had not previously observed it.

## 8. ANÆA DOMINICANA, sp. nov. (Plate XXV. fig. 1.)

*Alis supra fuscis, apicibus marginibusque obscuris; anticis maculis ultra cellulam duabus, aliisque infra, lituram fere obsoletam formantibus, flavescens; posticis caudatis punctis, in marginem angulum analem versus, nigris; subtus griseo irroratis, triente posticarum distali fusca, punctis viridibus notatis linea ferruginea ab angulo apicali ad angulum analem transeunte.*

Very similar to *A. verticordia*, Hübn., from Haiti, from which, however, it differs in its smaller size, and in having the three yellowish spots towards the posterior angle of the primaries alone indicated by an indistinct confluent mark. Another allied species is the Cuban *A. echemus*, which is said to be also found on the mainland.

This latter species is the type of Westwood's genus *Cymatogramma*, one which has of late years been merged in *Anæa* (= *Paphia*). Like *Anæa* the subcostal branches join the costal, but there are, strictly speaking, only two of them, the second being itself branched.

## 9. LYCÆNA HANNO.

*Papilio hanno*, Stoll, Suppl. Cram. t. 39. f. 2 B.

*Rusticus adolescens hanno*, Hübn. Samml. ex. Schmett. i. t. 98.

There are many specimens of this widely ranging species in the collection.

10. *LYCÆNA CASSIUS*.

*Papilio cassius*, Cram. Pap. Exot. t. 23. f. C, D.

Of this widely dispersed species Mr. Angas brought home only a pair.

11. *THECLA SALONA*.

*Thecla salona*, Hew. Descr. of Lyc. p. 31; Ill. Diurn. Lep. p. 159, t. 63. f. 429, 430.

There are three specimens in poor condition in the collection. They agree fairly with others thus named by Mr. Bates, who took them in the Amazons valley.

12. *TEIAS DEVA*.

*Papilio agave*, Fabr. Ent. Syst. iii. p. 193 (nec Cram.).

*Terias deva*, Doubl. Gen. Diurn. Lep. p. 78; Bates, Journ. Ent. i. p. 240.

Many specimens, agreeing with others thus named by Mr. Bates from the Amazons. This species also occurs in Central America, but we have no examples of it from any of the other West-Indian islands.

13. *PIERIS VIRGINIA*.

*Pieris virginia*, Godt. Enc. Méth. ix. p. 141; Luc. Lép. Ex. t. 33. f. 1, p. 64.

*Mylothris hemithea*, Geyer in Hübn. Zutr. viertes Hund. p. 24, f. 693, 694.

A little known species, of which there are several specimens in the collection. These agree with Godart's description and Lucas's figure. We much doubt if *P. vallei* of Boisduval, attributed to Cuba, is really distinct. It is not included in Herrich-Schäffer's list of the butterflies of that island, and the figure in La Sagra's work is not very trustworthy.

14. *CALLIDRYAS ARGANTE*.

*Papilio argante*, Fabr. Syst. Ent. p. 470.

*Callidryas argante*, Bates, Journ. Ent. i. p. 238.

Many specimens, all rather smaller than the average of continental examples.

15. *CALLIDRYAS EUBULE*.

*Papilio eubule*, Linn. Syst. Nat. i. p. 764.

*Callidryas eubule*, Bates, Journ. Ent. i. p. 239.

Also a common species, and the specimens, like those of *C. argante*, of small size.

16. *CALLIDRYAS TRITE*.

*Papilio trite*, Linn. Syst. Nat. i. p. 763.

*Callidryas trite*, Bates, Journ. Ent. i. p. 239.

This too is a common species, but the individuals are about of the normal size.



17. *PAPILIO NEODAMAS*.

*Papilio neodamas*, Lucas, Rev. Zool. 1852, p. 193, t. 10. f. 5.

Of this species little is known. Lucas, when describing it, gave its locality as "Les Antilles;" and this is the first time its residence has been traced to any particular island.

Its nearest ally is *P. polydomas*, from which it differs in having the greenish-yellow transverse band straighter and running further from the outer margin; beneath, the wings are blacker, the submarginal band of red spots more conspicuous, and the yellow cilia restricted to the indentations of the outer margin.

18. *THYMELE PROTEUS*.

*Papilio proteus*, Linn. Syst. Nat. i. p. 794.

Many specimens of this very widely distributed species.

19. *THYMELE SANTIAGO?*

*Eudamus santiago*, Lefebvre, in La Sagra's Hist. Cuba, vii. p. 267.

Mr. Angas's collection contains several specimens which resemble Cuban examples which we attribute to this species. There are, however, several points of difference which will perhaps be found to be specific when the group is systematically investigated. The secondaries have a more rounded outer margin and a shorter tail; beneath, these wings are much darker, and there is no paler patch on the outer margin near the apical angle. The vitreous spots of the primaries are very small, and in some specimens entirely wanting.

20. *PROTEIDES ANGASI*, sp. n. (Plate XXV. fig. 2.)

*Alis fuscis, ad basin fulvis, anticis valde productis, maculis quatuor hyalinis in linea transversa a costa angulum analem versus transeuntibus, aliis duobus minutis apici propioribus; subtus anticis fere ut supra sed fulvo ad basin absente, posticis obscure fuscis, litura irregulari medium alarum occupante rubro-fusca, marginem externum versus punctis nigrescentibus notatis.*

Mr. Angas brought home several specimens of this Skipper, which appears in Dominica to represent *P. idas* of Cramer. This latter insect has a wide range upon the American continent, and extends to the island of Haiti. *P. angasi* differs, however, from it in having the fulvous colour at the base of the wings more restricted, in wanting the white cilia of the outer margin of the secondaries, and the grey mottling of the undersurface is entirely absent, though a faint indication of the pattern on the secondaries exists. The white bands, so conspicuous on the body of *P. idas*, are obsolete.

Lefebvre, in La Sagra's 'Historia de Cuba' (vii. p. 271), under the name of *Goniloba mercurius*, alludes to certain specimens, which he briefly describes. These would appear to be very like the species we now characterize.